

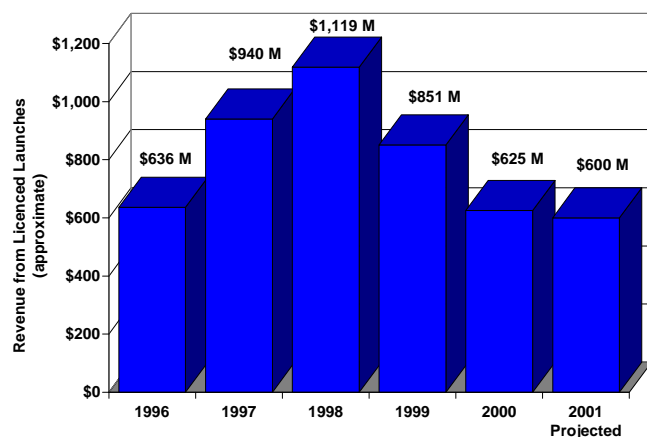
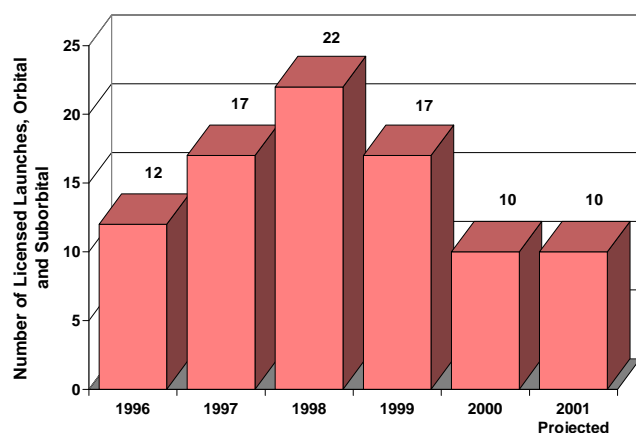
January 2001

## 10 FAA-LICENSED LAUNCHES IN 2000

In 2000, U.S. launch providers conducted 10 launches licensed by the Federal Aviation Administration's (FAA) Office of the Associate Administrator for Commercial Space Transportation (AST). The 10 FAA-licensed launches were valued at approximately \$625 million including:

- Four launches for commercial clients, worth \$343 M
- Two launches for the U.S. Government, worth \$27 M
- Three flights for Sea Launch, worth \$255 M
- One test flight of Boeing's Delta 3- no revenues were generated from the test launch

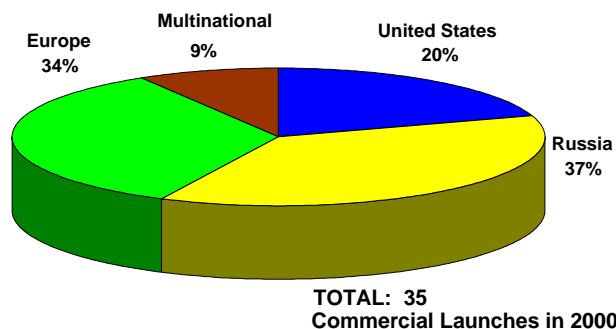
This represents a decrease of 41 percent from 1999 (17 launches) and 55 percent from 1998 (22 launches), and reflects the business reorganization of two satellite communications companies and delays in bringing two space launch vehicles on line.




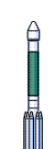



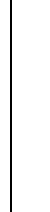
## FIVE-YEAR TREND WORLDWIDE

There was an average of just over 21 GEO launches per year during the period 1996-2000 with a low of 20 in 1999 and a high of 24 in 1997. There were 21 GEO launches in 2000, the same as the average. There were 14 non-geosynchronous (NGSO) launches in 2000, also equal to the average for the period. There was a low of 3 NGSO launches in 1996 and a high of 20 in 1998.

Thirty-five commercial launches occurred in 2000, slightly lower than the 35.4 launches for the period. The number of commercial launches from 1996 to 1999 were 24, 38, 41, and 39 launches. In particular, Russian vehicles launched an increasing number of commercial flights. Starting with two commercial launches in 1996, Russian commercial launches numbered 13 in 1999 when Soyuz vehicles entered commercial service, and there were another 13 launches in 2000. Europe's Arianespace grew from eight commercial flights in 1999 to 12 in 2000.



## FAA-Licensed Vehicles Launched in 2000

	United States					Multi-national
Vehicle						
2000 Total Launches	2	6	1	7	1	3
Licensed Launches	2	1	1	2	1	3
Reliability 2000	2/2	6/6	1/1	7/7	1/1	2/3
Last 10 Years	100%	100%	100%	100%	100%	66.7%
	26/29	77/78	1/3	48/51	1/1	4/5
LEO (lb.)	1,015	11,220	18,280	19,050	19,050	35,000
GTO (lb.)	--	4,060	8,400	8,200	8,900	11,050

# CY 2000 Worldwide Commercial Launch Events

Date	Vehicle	Site	Payload(s)	Operator	Manufacturer	Use	Comml Price	L	M
<b>United States</b>									
2/3/00	Atlas 2AS	CCAFS	* Hispasat 1C	Hispasat	Alcatel Espace	Communications	\$90-105 M	S	S
2/8/00	Delta 2 7420	CCAFS	* Globalstars 60,62-64	Globalstar	Space Systems/Loral	Communications	\$45-55 M	S	S
5/24/00	Atlas 3A	CCAFS	* Eutelsat W4	Eutelsat	Alcatel Espace	Communications	\$90-105 M	S	S
6/7/00	Pegasus XL	VAFB	TSX 5	DoD	Orbital Sciences Corp.	Development	\$12-15 M	S	S
7/14/00	Atlas 2AS	CCAFS	* Echostar 6	EchoStar Satellite Corp.	Space Systems/Loral	Communications	\$90-105 M	S	S
8/23/00	Delta 3	CCAFS	* DM-F3	Boeing	Boeing	Test	\$75-90 M	S	S
10/9/00	Pegasus XL	Kwajalein	HETE-2	MIT	MIT	Scientific	\$12-15 M	S	S
<b>Europe</b>									
1/24/00	Ariane 42L	Kourou	* Galaxy 10R	PanAmSat	Hughes	Communications	\$80-100 M	S	S
2/17/00	Ariane 44LP	Kourou	* Superbird 4	Space Comm. Corp.	Hughes	Communications	\$90-110 M	S	S
3/21/00	Ariane 5	Kourou	* AsiaStar 1	WorldSpace, Inc.	Alcatel Espace	Communications	\$150-180 M	S	S
			* Insat 3B	ISRO	ISRO	Communications			
4/18/00	Ariane 42L	Kourou	* Galaxy 4R	PanAmSat	Hughes	Communications	\$80-100 M	S	S
8/17/00	Ariane 44LP	Kourou	* Nilesat 102	Egypt Radio & TV Union (ERTU)	Astrium	Communications	\$90-110 M	S	S
			* Brazilsat B4	Embratel	Hughes	Communications			
9/6/00	Ariane 44P	Kourou	* Eutelsat W1R	Eutelsat	Alcatel Espace	Communications	\$80-100 M	S	S
9/14/00	Ariane 5	Kourou	* Astra 2B	SES	Matra Marconi Space	Communications	\$150-180 M	S	S
			* GE 7	GE Americom	Lockheed Martin	Communications			
10/6/00	Ariane 42L	Kourou	* NSat 110	JSAT/SCC	Lockheed Martin	Communications	\$80-100 M	S	S
10/29/00	Ariane 44LP	Kourou	* Europe Star 1	Europe Star	Alcatel Espace	Communications	\$90-110 M	S	S
11/15/00	Ariane 5	Kourou	* PAS 1R	PanAmSat	Hughes	Communications	\$150-180 M	S	S
			AMSAT Phase 3-D	AMSAT	AMSAT	Communications			
			STRV 1C	British MoD	Defense Rrsch. Agency	Development			
			STRV 1D	British MoD	Defense Rrsch. Agency	Development			
11/21/00	Ariane 44L	Kourou	* Anik F1	Telesat Canada	Hughes	Communications	\$100-125 M	S	S
12/19/00	Ariane 5	Kourou	* GE 8	GE Americom	Lockheed Martin	Communications	\$150-180 M	S	S
			* Astra 2D	SES	Hughes	Communications			
			Ldrex	NASDA, Rocket Sys. Corp.	Toshiba	Development			
<b>Russia</b>									
2/12/00	Proton	Baikonur	* Garuda 1	Asia Cellular Satellite (ACeS)	Lockheed Martin	Communications	\$75-95 M	S	S
4/3/00	Soyuz	Baikonur	* Soyuz TM-30	MirCorp	RKK Energia	Crewed	\$35-40 M	S	S
4/26/00	Soyuz	Baikonur	* Progress M1-2	MirCorp	RKK Energia	Supply	\$35-40 M	S	S
6/30/00	Proton	Baikonur	* Sirius Radio 1	Sirius Satellite Radio Inc.	Space Systems/Loral	Communications	\$75-95 M	S	S
7/15/00	Cosmos	Plesetsk	Champ	DARA	Jena-Optronik GmbH	Scientific	\$12-14 M	S	S
			Mita	Italian Space Agency (ASI)	Carlo Gavazzi Space	Communications			
			RUBIN	Germany	OHB System	Scientific			
9/5/00	Proton	Baikonur	* Sirius Radio 2	Sirius Satellite Radio Inc.	Space Systems/Loral	Communications	\$75-95 M	S	S
9/26/00	Dnepr 1	Baikonur	* MegSat 1	MegSat S.P.A	MegSat S.P.A	Communications	\$10-20 M	S	S
			Saudisat 1-1	Space Rrsch. Inst. (S.A.)	Space Rrsch. Inst. (S.A.)	Scientific			
			Saudisat 1-2	Space Rrsch. Inst. (S.A.)	Space Rrsch. Inst. (S.A.)	Scientific			
			* TiungSAT 1	Malaysian Space & Telecom Rrsch.	Surrey Sat. Tech. Ltd.	Remote Sensing			
			Unisat	University of Rome	University of Rome	Scientific			
10/1/00	Proton	Baikonur	* GE 1A	Americom Asia-Pacific	Lockheed Martin	Communications	\$75-95 M	S	S
10/15/00	Soyuz	Baikonur	* Progress M1-3	MirCorp	RKK Energia	Supply	\$35-40 M	S	S
10/21/00	Proton	Baikonur	* GE 6	GE Americom	Lockheed Martin	Communications	\$75-95 M	S	S
11/21/00	Cosmos	Plesetsk	* QuickBird 1	Earthwatch, Inc.	Ball Aerospace	Remote Sensing	\$12-14 M	F	F
11/30/00	Proton	Baikonur	* Sirius Radio 3	Sirius Satellite Radio Inc.	Space Systems/Loral	Communications	\$75-95 M	S	S
12/5/00	START 1	Svobodny	* EROS A1	Israel Space Agency	Israel Aircraft Industries	Remote Sensing	\$5-10 M	S	S
<b>Multi-national</b>									
3/12/00	Zenit 3SL	Odyssey	* ICO Z-1	New ICO	Hughes	Communications	\$75-95 M	F	F
7/28/00	Zenit 3SL	Odyssey	* PAS 9	PanAmSat	Hughes	Communications	\$75-95 M	S	S
10/21/00	Zenit 3SL	Odyssey	* Thuraya 1	Thuraya	Hughes	Communications	\$75-95 M	S	S

\* Denotes a commercial payload, defined as a spacecraft which serves a commercial function or is operated by a commercial entity.